

ABSTRACT OF THE DISCLOSURE

An apparatus for mounting an electric component onto a board by means of a lead-free solder material. The apparatus of the present invention has a solder material supplying chamber in which a melt of the solder material is supplied to the board by a solder material supplying unit such that the solder material adheres to a predetermined portion of the board. The apparatus further includes a cooling chamber in which the board is cooled by a cooling unit such that the solder material adhering to the board is rapidly cooled to solidify. A conditioning chamber can also be positioned between the solder material supplying chamber and the cooling chamber. The conditioning chamber conditions the board such that the solder material adhering to the board is ensured to be a completely molten condition at least before the rapid cooling of the solder material.